The Application Inventory Control Systems in Warehouse

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Abstract

Today, companies are making efforts on inventory control enhancement in order to deliver products and services to their customers rapidly at low cost. There is no doubt that inventory control enhances the firm's operations. Better inventory control means effective operations of a firm resulting in cost reduction and ultimately increasing on profit. The purpose of this paper is to showcase the significance of proper inventory control systems application in warehouses. The inventory control techniques applicable in the warehouse such as batch quantities, ordering methods and inventory classification and as well as the factors contributing to poor inventory control were highlighted in this paper.

Keywords
Inventory, Inventory control, Warehouse

1. Introduction

Inventories are work-in-progress goods, finished goods, raw materials that an organization aim to sale and gain profit (Ziukov, 2015). It is the best assets that any company value; if inventory is controlled and monitored in a good way it can add value to the organization. The overall profit of an organization is further enhanced by how well and efficiently an inventory is controlled (Godana and Ngugi, 2014).

According to Ogbo and Ukpere (2014), Inventory control is defined as the supply of goods and services to a place with the correct quantity and quality. It is the process of moving goods from one place to the other in a safer way. Inventory control is the management based activities focusing on determining requirements, forecasting, setting goals and giving orders and necessary instructions (Ballard, 1996).

Inventory control is a consistent means of running the organization operations smoothly while ensuring that customers are satisfied, goods are delivered on-time and loss of goods are minimized (Ogbo and Ukpere, 2014).

Proper inventory control system in any organization in a country such as South Africa is of vital necessity since it helps improve various areas within the management effectively (Lwiki et al., 2013; Ogbo and Ukpere, 2014). However, Godana and Ngugi (2014) argue that there exists a challenge to locate the best inventory level that works effectively with the production system in place in the organization. This phenomenon, contributes to majority of companies in developing countries not utilizing inventory control techniques (Goonatilake, 1984).

Inventory control must not be generalized as a physical balance of material only, but must be seen as a means of minimizing inventory cost. A proper control of inventory means that less cost utilized in correcting errors due to

improper inventory control system. This in turn leads to a high level of efficiency in the system and the ability to adopt better inventory control techniques (Goonatilake, 1984).

This paper aims to look at the application of inventory control and its challenges contributing to proper inventory control within the warehouse.

2. Types of Inventory control

Every organization has its own specific inventory control system that is used to integrate all aspects of overseeing its inventories including; re-ordering, tracking, turnover, receiving, shipping, warehouse storage and retrieving, however systems vary by the type of business being run (Doweler, 2015). Below are the two main types of inventory system according to Dowler (2015):

2.1 Perpetual inventory system

The perpetual inventory system is the most supported strategy for tracking inventory in warehouses. In this system, stock data is entered ceaselessly or consistently. Once an order is placed or received, the data is upgraded into the system immediately. Contrasted with the periodic inventory system, a perpetual inventory system is incomparable because it permits continuous tracking of sales apart from observing individual inventory levels for everything. Nonetheless, the determined stock levels acquired from a perpetual inventory system may consistently deviate from the real inventory levels because of theft or unrecorded transactions. It is then necessary to periodically contrast the physical inventories with the on-hand amounts of inventory and modify accordingly.

2.2 Periodic inventory system

In this system, inventory is not monitored to be up-to-date. Instead it is updated on interval bases usually once in a year. This particular system is not efficient as compared to the perpetual system. However, many organizations tend to save on their investment because they do not have to setup technology and software needed to keep track of data. The set back with this system is that an organization stay out of entry stock data for the whole year.

3. Benefit of good Inventory control

The major reason for keeping inventory control is meeting up of operational requirement or keeping operations running at all-time (Ogbo and Ukpere, 2014). Furthermore, it helps ensure that stock do not get lost, stock is placed in their respective location, correct level of stock is maintained, and movements are monitored. These reasons were supported by Ballard (1996), who argues that inventory control focuses at the data level where the daily operations take place.

In the light of this, Ballard (1996), stresses that another critical factor of inventory control which is accurate forecasting. According to Goonatilake (1984), the power of conventional inventory control has a gap and it need to be examined if found unacceptable. There will be a need to develop inventory control techniques that is more desired to the specific industrial environment in South Africa.

4. Specific factors having impact on Inventory control

There are two common factors that significantly impact on any inventory control policy implemented in developing countries (Goonatilake, 1984).

4.1 Imported raw materials and parts

Developing countries strongly depend on imported spare parts and raw material. Basically the functioning of the business is controlled by when they receive stock. A machine can breakdown and if there is no available part on hand companies need to wait until spare part to fix the machine are delivered. Usually order lead time can take up to two to three months.

4.2 System of Government and related problems

Governments operate differently in different countries; they have their own rules and endemic bureaucratic delays. Such associated problems may seem oppressing and inconveniencing to some companies. All these issues make it difficult to place orders for raw material and parts from other countries.

The basic differences in Inventory ordering process between developed and developing countries is shown in Figure 1 and 2 respectively.

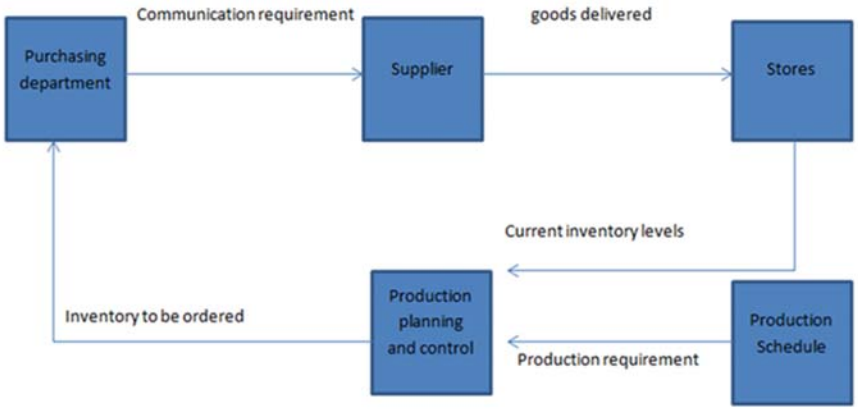

Figure 1. Inventory ordering process in developed countries

Figure 1 shows a simple model of stock ordering process. The production planning and control takes care of future production schedule and checking the availability of stock in the stores to know when it is time to order. The production planning and control then knows what to order and then it communicate with the purchasing department and that when suppliers are told of the requirement and the final step is receiving of goods that was ordered.

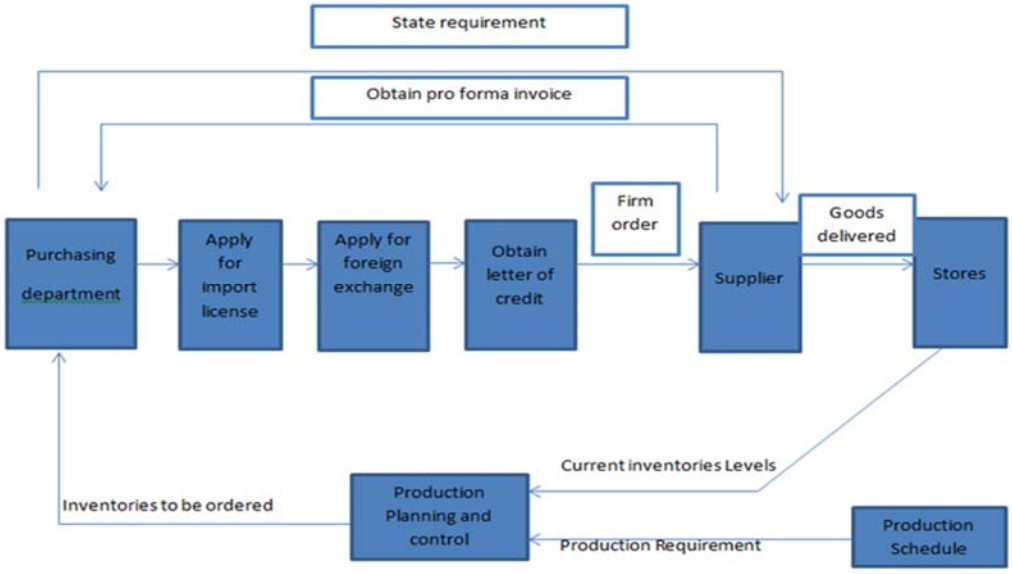

Figure 2. Inventory ordering process in developing countries

However, for developing countries, the process is a bit longer because of certain approvals that need to take place

before the item is received after placing an order (See Figure 2). The long procedure makes it very difficult for companies in developing countries to achieve their overall objective. Many organizations in developing countries never survive in the industry but only the ones that are government funded or privately-owned monopolies (Goonatilake, 1984).

5. Application of Inventory control techniques

5.1 Batch Quantities

The batch quantity related with the minimum requirement of the total cost is termed the Economic batch quantity (EBQ) (Goonatilake, 1984). A study by Goonatilake (1984), observed that 61 per cent of companies are not using EBQ due to the bureaucratic procedures involved in obtaining an import license, foreign exchange and a letter of credit. Those companies prefer to order in bulk rather than smaller economic batch size. However, the ordering decisions whether to order in batches or in small quantities is usually dependent on how a certain stock has been used throughout the year.

5.2 Ordering methods

Re-order point (ROP) tracks the amount of stock that is left each time a withdrawal is made to decide whether to order or not to order (Lee Stamm at al., 1989). ROP determines the level where the action is needed to be taken to replenish the stock item (Harrington et al., 1990). Fast moving products are ordered when the stock level depletes thus, ensuring that stocks are kept fresh at all times.

However, study shows that 70 percent of companies reports that this ordering method is meaningless (Goonatilake, 1984). The reason is that the main lead time cannot be estimated with the degree of accuracy due to bureaucratic problems argued earlier. The uncertainty of order lead time pushes companies to operate with massive stock at hand to prevent being out of stock. The high buffer stock means higher inventory cost which then add to the cost of production (Goonatilake, 1984).

5.3 Inventory classification

Warehouses are dealing with massive amount of stock and it becomes difficult to control all stocks at once, as such priorities need to be taken in to consideration. The most commonly used technique is ABC classification. Haizer and Render (2008), defined the term “ABC analysis as an application of inventory of what is known as the Pareto principle it also divides inventory in to three classifications according to three classifications based on “annual dollar volume”. The advantage of this classification scheme lies in reduction rather than in a narrowing of inventory control and again this analysis gives a measure of inventory significant to an individually part and the outcome become simple and easy to operate (Krajewski et al., 2013; Nagarur et al., 1994).

6. Inventory control systems and Warehouse management systems

Inventory control and warehouse management should work hand in hand for better achievement and benefit of the organization operations. Some of the benefits of the relationship between the systems are (Ballard, 1996).

- Better information
- Reduction of errors
- Rapid highlighting of any errors that do occur
- High levels of business integration
- Reduced inventory in the warehouse

7. Factors contributing to Inventory control problems

Problems with Inventory control frequently end in inconsistencies in records and physical count, and are cause by factors such as: (Biggart and Gargeya, 2002).

- Lack of training and performance measurement system
- Unlimited system access to decentralized measurement system
- Lack of accountability by location
- Non-standard terminology
- Non-standard policies and procedures

8. Conclusion

The paper reveals that employing inventory control comes with a big price. There are many problems that an organization needs to attend to. It is evident that ineffective inventory control is the main problem. Furthermore, companies in developing countries do not use the basic inventory control techniques. In many cases the ROP is always related to the extent of working capital available. That means companies in developing countries tend to order a massive quantity of stock subject to the amount of working capital available.

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Biography

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